

Environmental Assessment

for the

**Construction of a Snow Disposal Area
in Base Housing**

Eielson Air Force Base, Alaska

**354th Fighter Wing
October 2006**

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**FINDING OF NO SIGNIFICANT IMPACT (FONSI)
and
FINDING OF NO PRACTICABLE ALTERNATIVE (FONPA)
for
Construction of a Snow Disposal Area in Base Housing**

Introduction

Eielson Air Force Base (Eielson) is proposing to construct a new snow disposal facility on the east side of the base so there will be a convenient place to take snow collected in housing. This will reduce haul distance and improve response times for base snow removal crews.

Description of the Proposed Action

The proposed action will result in the construction of a snow disposal facility near the intersection of French Creek Drive and Moose Lake Drive. This facility would be approximately 9.5 acres in size and provide adequate snow stockpiling for a typical winter snowfall. The facility would have a 50- to 100-foot-wide buffer of natural vegetation at its perimeter to prevent contaminated snowmelt from reaching nearby ponds and lakes. The area is currently wooded and trees would be removed and low areas filled with tree debris. Approximately 0.4 acres of wetlands would be impacted by this project.

Alternatives to the Proposed Action

One action alternative to the proposed action was identified. This alternative would construct a snow dump at an alternative location near the intersection of French Creek Drive and Manchu Drive. This snow disposal facility would have approximately one third less storage capacity compared to the proposed project and result in the loss of 4.6 acres of wetlands.

No Action Alternative

This alternative would result in no additional snow dumps being constructed in the vicinity of base housing. Current snow removal operations would continue to be implemented during the winter months.

Environmental Impacts of the Proposed Action

Wetlands and Floodplains

The proposed project would result in impacts to 0.4 acres of vegetated scrub/shrub wetlands. The wetlands are of relatively low value and are near large areas of similar habitat. Any wildlife that uses the wetlands would likely be displaced to adjacent wetlands similar to those that currently exist at the site. The removal of vegetation will be completed during the winter to avoid disturbance to nesting birds. The project area does not lie within the 100-year floodplain.

Biological Resources

Impacts to biological resources from the proposed action would be minimal. Habitat impacted is a type that commonly occurs in large tracts nearby the project. It is likely that the few wildlife species that currently use the area would be displaced to this nearby habitat. Some small mammals such as squirrels and voles would be displaced.

Threatened or Endangered Species

There are no threatened or endangered species in the project area. The project area is not suitable habitat for any of the threatened or endangered species occurring in the Alaskan interior.

Historical or Cultural Resources

Most archeological sites on Eielson lands have been identified and mapped. The proposed project is not associated with any known sites. In the event that historic or cultural sites are discovered during project construction, activities will be halted and a professional archeologist will evaluate the find.

Noise

Implementation of the proposed action could result in short-term, minor impacts to noise from construction related activities.

Air Quality

The proposed action will have minor air quality impacts during construction due to fugitive dust and machinery exhaust. Such impacts will be highly localized and temporary in nature.

Mitigation

No special conditions (mitigation) other than standard best management practices that are already incorporated into the project design, are required by any federal or state agency for impacts that may result from this project.

Public Comment


No public comments were received from the public notice of the Environmental Assessment/FONSI/FONPA for this project in local newspapers. In addition, no comments were received from local, state, and federal agencies during the public notice of the U.S. Army Corps of Engineer's 404 wetlands permit.

Findings

Pursuant to the National Environmental Policy Act of 1969 (NEPA), the Council on Environmental Quality (CEQ) implementing regulations for NEPA (40 CFR Part 1500-1508), and Air Force Instruction 32-7061, *Environmental Impact Analysis Process* (32 CFR Part 989), the Air Force has conducted an EA for the construction of a new snow disposal facility in the housing portion of the base. This FONSI/FONPA has been developed pursuant to information provided in the accompanying EA.

Finding of No Practicable Alternative: Eielson is an Air Force base that operates, maintains, and trains combat forces in close air support of military operations worldwide. Eielson must have an efficient system for snow removal during winter months to meet its strategic mission and readiness. Taking all the environmental, economic, and other pertinent factors into account, pursuant to Executive Order 11990, the authority delegated by SAFO 780-1, and taking into consideration the submitted information, I find that there is no practicable alternative to this action and the proposed action includes all practical measures to minimize harm to the environment.

Finding of No Significant Impact: Based on this environmental assessment, which was conducted in accordance with the requirements of NEPA, CEQ, and Air Force Instructions, I conclude the construction of a new snow disposal facility near housing will not result in significant impacts to the environment. I also find that the preparation of an environmental impact statement is not warranted.



WILLIAM M. CORSON, Colonel, USAF
Director, Installations and Mission Support

JAN 23 2007

Date

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Findings

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WILLIAM M. CORSON, Colonel, USAF
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TABLE OF CONTENTS

FINDING OF NO SIGNIFICANT IMPACT and FINDING OF NO PRACTICABLE ALTERNATIVE	i-iii
1.0 Purpose and Need for Action	1
1.1 Background and Objectives for the Proposed Action	1
1.2 Location of the Proposed Action	2
1.3 Decision to be Made and Decision Maker	3
1.4 Project Scoping/Significant Issues	3
1.5 Federal, State, and Local Permits Needed for Project Implementation	4
2.0 Description of the Proposed Action and Alternatives	5
2.1 Criteria Used to Develop Alternatives	5
2.2 Proposed Action – Construct a New Snow Dump Near Housing	6
2.3 Alternative 1 – Construct Snow Dump at North End of Polaris Lake	8
2.4 No Action Alternative	8
2.5 Summary of Major Impacts by Resource for Each Alternative	9
3.0 Affected Environment	10
3.1 Physical Environment	10
3.1.1 Geology/Soils	10
3.1.2 Groundwater	10
3.1.3 Surface Water and Wetlands	10
3.1.4 Noise	12
3.1.5 Air Quality	13
3.1.6 Cultural Resources	13
3.2 Biological Resources	13

3.2.1 Vegetation	13
3.2.2 Aquatic/Fishery Resources	15
3.2.3 Wildlife Resources	16
3.3 Habitat Value	16
3.4 Threatened and Endangered Species	16
4.0 Environmental Consequences	17
4.1 Physical Environment	17
4.1.1 Soils	17
4.1.2 Groundwater	17
4.1.3 Surface Water	17
4.1.4 Noise	18
4.1.5 Air Quality	18
4.1.6 Cultural Resources	18
4.2 Biological Resources	19
4.2.1 Vegetation	19
4.2.2 Aquatic/Fishery Resources	19
4.2.3 Wildlife Resources	19
4.2.4 Threatened and Endangered Species	19
4.3 Cumulative Impacts	20
4.4 Unavoidable Adverse Impacts	21
4.5 Relationship of Short-Term Uses and Long-Term Productivity	21
4.6 Irreversible and Irretrievable Commitments of Resources	21
4.7 Environmental Justice	21
4.8 Mitigation	22
5.0 List of Persons and Agencies Consulted	23
6.0 Glossary	24-25

7.0 Wetlands Permit

26-28

8.0 Public Notice

29

List of Figures and Tables

Figure 1-1 – Location Map	Page 2
Figure 2-1 – Housing Area of the Base	Page 5
Figure 2-2 - View of Proposed Snow Dump	Page 6
Figure 2-3 – Schematic Plan of Snow Dump	Page 7
Figure 2-4 – Location of Proposed and Alternate Sites	Page 8
Table 2-1 –Impacts Comparison Matrix	Page 9
Figure 3-1 – Surface Water and Wetland Features	Page 11
Figure 3-2 – Noise Levels	Page 12
Figure 3-3 – Upland Vegetation at Proposed Snow Dump Site	Page 14
Figure 3-4 – Typical Wetland Vegetation at the Proposed Site	Page 14
Figure 3-5 – Alternate Site	Page 15

Construction of a Snow Disposal Area Environmental Assessment Eielson Air Force Base, Alaska

1.0 Purpose and Need for Action

Section 1.0 provides a description of the purpose and need for the proposed action.

1.1 Background and Objectives for the Proposed Action

1.1.1 Eielson Air Force Base (Eielson) is proposing to construct a new snow disposal area on the east side of the base near housing. The new disposal area would significantly reduce travel time for snow removal crews and decrease response time that it takes to clear roads.

1.1.2 Eielson was established in 1944 and is currently part of the Pacific Air Forces (PACAF) Command. The 354th Fighter Wing (FW) operates, maintains, and trains combat forces in close air support and interdiction missions in support of the war plans in three operational theaters. The 354 FW's mission is to train and equip personnel for close air support of ground troops in an arctic environment. The 168th Air Refueling Wing is the primary tanker unit of the Pacific Rim, annually transferring over 17 million pounds of fuel in flight to predominantly active duty aircraft.

1.1.3 Eielson is located in the interior of Alaska and has a subarctic climate. These climatic conditions are characterized by low annual precipitation and large seasonal temperature differences between summer and winter. There is an 8 month period of time (September to April) when snowfall can occur. Annual snow fall can range from 65 to 140 inches during a winter season.

1.1.4 In support of Eielson's mission, the 354th Civil Engineer Squadron's Operations Flight, conducts snow removal operations. Highest priority is removal of snow from the flightline to maintain aircraft and mission readiness. In addition to the flightline, however, there are more than 350 miles of roads that must be cleared of snow to keep the base operational. In many areas of the base snow must be loaded on trucks and disposed of at approved disposal sites. This is particularly true of the areas in and around base housing where there is no room to push snow into berms. In these circumstances it is more efficient for the snow removal operators to load snow into trucks and to have a short haul distance to a snow disposal area.

1.1.5 Eielson has a base snow management plan that was prepared in 2000 that established the methods and locations for snow removal operations on base. The plan identified two designated snow disposal areas that are intended mainly for disposal of snow removed from portions of the flight line that have no snow stockpiling available. Snowmelt is considered a natural storm water discharge and the runoff is not regulated by a National Pollution Discharge Elimination System permit as is the Wastewater Treatment Plant. There is a potential for snow removed from streets and parking lots on base to contain contaminants such as alcohol, propylene glycol, salt, and

petroleum residues. Care in the design of a snow dump must be taken to ensure that these contaminants do not get released into streams or other water bodies on base.

1.1.6 Housing, with its structures in close proximity to each other, does not have areas to push or stockpile snow and thus loading on trucks and transporting to designated disposal areas is the only option. For this reason a new snow dump is being proposed that would be strategically located to make it convenient to haul snow from the housing sections of the base during the winter.

1.2 Location of the Proposed Action

1.2.1 Eielson is located within the Fairbanks North Star Borough, approximately 120 miles south of the Arctic Circle and 23 miles southeast of Fairbanks (Figure 1-1). Eielson is located in the Tanana River Valley on a low, relatively flat, floodplain terrace that is approximately 2 miles north of the active river channel. Other communities near Eielson include Moose Creek to the north and Salcha to the south.

1.2.2 Base lands include 19,790 contiguous acres bounded on the west by the Richardson Highway and on the north and east by Army lands (Yukon Training Area). To the south, the community of Salcha borders Eielson. Of the total base acreage, over 50 percent is designated as wetlands. Of the remaining undeveloped portions of the base, 79 percent are wetlands.

REGIONAL AND BASE LOCATION MAPS

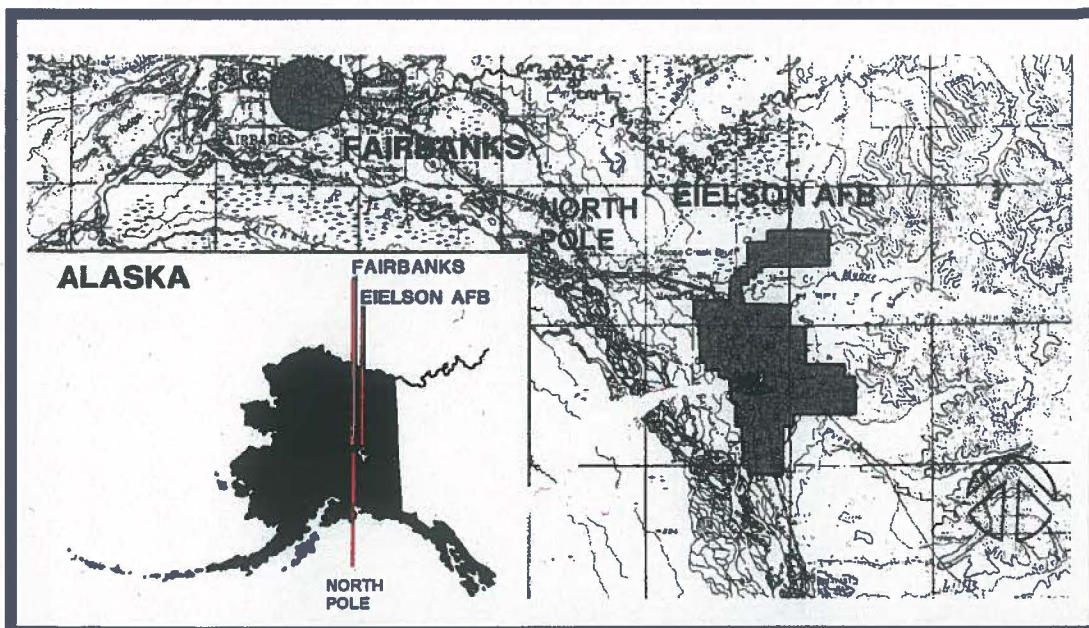


Figure 1-1 – Location Map

1.3 Decision to be Made and Decision Maker

1.3.1 As required by 32 CFR Part 989, the *Environmental Impact Analysis Process* will be used to determine what will be the environmental consequences of constructing a new snow dump in the housing area of the base. This Environmental Assessment (EA) is intended to satisfy these requirements. The proposed action and all alternatives considered will be addressed in detail in Section 2.0 of this document. A description of the resources associated with the areas affected by all alternatives will be provided in Section 3.0 and the impacts that could result from each one are discussed in Section 4.0.

1.3.2 Based on the evaluation of impacts in the EA, a Finding Of No Significant Impact (FONSI) will be published if there is a finding of no significant environmental impacts for the proposed action. If it is determined that the proposed action will have significant environmental impacts, other alternatives will be considered for which impacts may not reach the threshold of significance.

1.3.3 The EA, a draft FONSI (if applicable), and all other appropriate planning documents will be provided to the PACAF Vice Commander, the decision maker, for review and consideration. If, based on a review by the decision maker of all pertinent information, a FONSI is proposed, a public notice will be published in accordance with 40 CFR 1506.6. All interested parties will have 30 days to comment on the decision to the Air Force. If, at the end of the 30-day public comment period, no substantive comments are received, the decision maker will sign the FONSI.

1.3.4 Executive Order 11990 requires the heads of federal agencies to find that there is no practicable alternative before the agency takes certain actions impacting wetlands. To address this requirement, the Secretary of the Air Force's designated agent, HQ PACAF/A7, will sign a document that addresses the issues of wetlands and floodplains that may be associated with actions the Air Force proposes to take. This document, known as a Finding Of No Practicable Alternative (FONPA) will state which alternative, the proposed action, alternative 1, or the no action alternative, will be selected as the appropriate course of action. The FONPA will be combined with the FONSI into one document. It will contain documentation that all practicable measures to minimize harm to wetlands and/or floodplains have been taken, and that all appropriate mitigation will be incorporated into the project design or otherwise authorized.

1.4 Project Scoping/Significant Issues

This section provides a summary of major issues raised during the scoping process that were considered significant enough to be addressed in the EA. The scoping process typically involves a meeting of potentially interested parties. These may include state and federal regulatory agencies that have oversight authority, as well as base groups that have involvement in the management of base snow removal operations. For this project scoping process, all potentially interested parties were contacted. However, no parties other than Eielson groups chose to participate beyond providing comments to the US Army Corps of Engineers on the 404 wetlands permit. The following project specific issues were identified during the scoping process:

1) *Operational requirements of Eielson snow removal crews:* It was stressed by operations personnel that the shorter the haul for trucks loaded with snow, the less fuel consumed and the quicker snow removal would be accomplished after a snow event.

2) *Containment of contaminated runoff:* Snow occasionally contains contaminants and it was stated by environmental flight staff that it would be important that the design of the snow dump allows for this and is designed to prevent runoff from entering other surface water bodies.

1.5 Federal, State, and Local Permits Needed for Project Implementation

Actions identified in this EA would require that certain permits be obtained. The proposed action would require a US Army Corps of Engineers 404 wetlands permit.

2.0 Description of the Proposed Action and Alternatives

Section 2.0 provides a description of alternatives considered for the purpose and need described in Section 1.0. The proposed action, one action alternative, and a no action alternative are addressed.



Figure 2-1 – Housing Area of the Base

2.1 Criteria Used to Develop Alternatives

As previously discussed in Section 1.1, there are criteria that must be met for an action alternative to achieve the requirements of the stated project purpose. The following is a list of the required design and function criteria that were used to develop a proposed project and alternatives.

1. *The site should be in close proximity to all areas of housing.* The haul distance that a truck filled with snow travels to the snow dump should be as short as possible. Housing areas extend along an approximate 2-mile corridor on the east side of the base. The two sites proposed for analysis in this EA are nearly equidistant from either end of the housing corridor.

2. *The site should occupy a land area large enough that an adequate vegetative buffer exists between the snow dump site and nearby surface water bodies.* Snow collected during the winter and deposited at the snow dump has the potential to contain contaminants that should not get into surface water bodies. These contaminants can include oils and grease, propylene glycol, and salt. By having an adequate vegetative buffer, these contaminants are naturally filtered out prior to surface runoff reaching surface water bodies such as Moose Lake or French Creek. The snow dump area, where hauled snow will be deposited, will have a minimum 50- to 100-foot setback within which natural vegetation (trees, bushes, and grass) will remain intact.

3. *The area should not be readily visible from base housing.* It was felt by the base planner that the location of the snow dump should be situated such that it is not visible from housing areas. This is strictly for aesthetic purposes and not important to the operation of the site..

2.2 Proposed Action – Construct a New Snow Dump Near Housing

2.2.1 The proposed action would result in the construction of a snow dump in the eastern portion of the base near housing. The construction of the snow dump would involve the following steps:

- Clear project area of all vegetation. Trees and shrub debris will be buried in existing low points such as the wetland areas indicated in Figure 2-2. A 50-foot buffer (100-foot on the south edge) of intact vegetation would be maintained at the perimeter of the project area.
- Level entire area so that there are no low points.
- Construct gravel access roads that will allow access to all portions of the snow dump area.



Figure 2-2 – View of Proposed Snow Dump

Polaris Lake

Underground North Pole/Military Pipeline

50'

50'

50'

100'

Pond

Moose Lake

Moose Lake Drive

801

N

0 125 250 500 Ft

2609 2612 2618 2614 2620 2632 2629 2635 2616 2617 2633 2636 2640

Sundog Court

Moose Lake Drive

Legend:

- Uplands/Project Boundary
- 0.4 acres Wetlands to be Filled
- Wetlands Outside the Project
- Forested buffers

Figure 2-3 – Schematic Plan of Snow Dump

2.3 Alternative 1 – Construct Snow Dump at North End of Polaris Lake

2.3.1 This alternative would construct a snow disposal facility in the vicinity of the intersection of French Creek Road and Manchu Road. This location meets some of the project criteria stated in Section 2.1, namely that it is in close proximity to all portions of base housing and there would be adequate safeguards to prevent contaminated snowmelt from reaching nearby surface water bodies (Polaris Lake). This site also contains wetlands and would require a US Army Corps of Engineer's wetlands permit.

2.3.2 There are some limitations associated with this site in comparison to the preferred site. These include:

- The site has about one third less total area for disposal of snow which, in a heavy snow year, would likely result in exceeding the sites storage capacity.
- The area is mostly wetlands (4.6 acres) and would require more fill material (8,300 cubic yards of gravel) to construct a containment berm to retain potentially contaminated snowmelt at the site.
- The site is more visible from portions of housing than the preferred site.



Figure 2-4 – Location of Proposed and Alternate Sites

2.4 No Action Alternative

This alternative would result in no additional snow disposal facilities being constructed in the vicinity of housing. This would likely result in more snow being left in place after winter snow fall for longer periods of time until base operations can schedule snow removal.

2.5 Summary of Major Impacts by Resource for Each Alternative

Table 2-1 – Impact Comparison Matrix

Resource	Proposed Action	Alternative 1	No Action
Soils	Would result in disturbance of 9.5 acres of soil, altering naturally occurring soil horizons.	Alternative 1 would result in the disturbance to 5.9 acres of wetlands and uplands and placement of 5,300 cubic yards of gravel for berm.	No disturbance to soils would occur for this alternative. Current snow removal operations would continue.
Surface Water	The proposed action site would have a 50- to 100-foot buffer of natural vegetation to protect nearby water bodies from contaminated snowmelt.	The alternative 1 site would have a 3-foot high berm surrounding the site to protect nearby water bodies from contaminated snowmelt	Snow would be left in place for longer periods, possibly resulting in more opportunity for contamination to get to surface water bodies.
Noise	Noise from the proposed action would be mainly from a short construction widow and whenever snow removal ops would occur.	Same as for the proposed action.	Noise levels that currently exist with snow removal ops would not change under this scenario.
Air Quality	Only short-term and localized impacts to air quality would occur from the proposed action.	Similar impacts to the proposed action.	Impacts to air quality would be similar to those of the proposed action.
Biological Resources-Vegetation	Approximately 9.1 acres of forested uplands and 0.4 acres of vegetated wetlands would be eliminated.	Loss of vegetation of approximately 4.6 acres of vegetated wetlands and 1.3 acres of forested uplands.	No impacts to vegetation would result from this alternative.
Biological Resources-Wildlife	The proposed action would result in the loss of 9.1 acres of early succession birch forest that provides some bird nesting habitat for several bird species. Some impacts to small mammals.	This alternative would result in the loss of 1.3 acres of birch and spruce forest, and 4.6 acres of vegetated wetlands that provide nesting habitat for a variety of bird species.	No impacts to wildlife would result from this alternative.

3.0 Affected Environment

This section describes relevant resource components of the existing environment that might be impacted by the proposed project and alternatives. Only environmental components relevant to the issues and objectives of this EA are described.

3.1 Physical Environment

Eielson encompasses approximately 19,790 acres and is isolated from major urban areas. The portion of Eielson that contains the area associated with the proposed action lies on the abandoned floodplain of the Tanana River, with elevations ranging from 525 to 550 feet above mean sea level. The surface of the floodplain is relatively smooth and slopes gently downward to the northwest at a gradient of about 6 feet per mile.

3.1.1 Geology/Soils

3.1.1.1 The area in the vicinity of Eielson was not glaciated during the last ice age. The majority of the subsurface geologic formations of the central plateau of Alaska are primarily from the Permian and Devonian periods of the Paleozoic era.

3.1.1.2 Soils in the Tanana River Valley consist of unconsolidated silty sands and gravels, organic and sandy silts, and clays. Floodplain soils nearest the active channels are sandy with a thin silt loam layer on the surface. On higher terraces, the soils become predominately silt from the Salchaket series. Along older river terraces, silt loam soils, which contain significant organic components, often dominate. These soils tend to be cold and wet and are generally underlain by permafrost. Approximately two-thirds of Eielson is covered with soils containing discontinuous permafrost. This preponderance of permafrost soils contributes to the large percentage of vegetated wetlands occurring on undeveloped base lands.

3.1.2 Groundwater

Eielson is located over a shallow unconfined aquifer. The aquifer is approximately 250 feet thick, extends to bedrock, and has a regional gradient of about 5 feet per mile flowing to the north-northwest. The water table varies from the surface in adjacent wetlands to 10 feet below ground level in developed areas. The base uses the local aquifer for its drinking water and monitors groundwater quality in a number of locations as part of its Installation Restoration Program. Localized contamination of the aquifer has been identified in the industrial area of the base, but the overall quality of groundwater at Eielson is excellent.

3.1.3 Surface Water and Wetlands

3.1.3.1 Aquatic bodies on Eielson include streams, wetlands, and lakes. There are approximately 28 miles of streams; 10,133 acres of wetlands; 12 lakes (Lilly Lake is natural and the remaining 11 are man-made) and 80 ponds (10 naturally-occurring and 70 man-made) totaling 560 acres; and 6,770 acres of floodplains on the main base.

The man-made lakes and ponds were created during the excavation of gravel deposits for use as fill material for construction projects on base. Surface drainage on Eielson is generally in a north-northwest direction and parallel to the Tanana River. Five streams flow through the base and discharge into the Tanana River via Piledriver Slough.

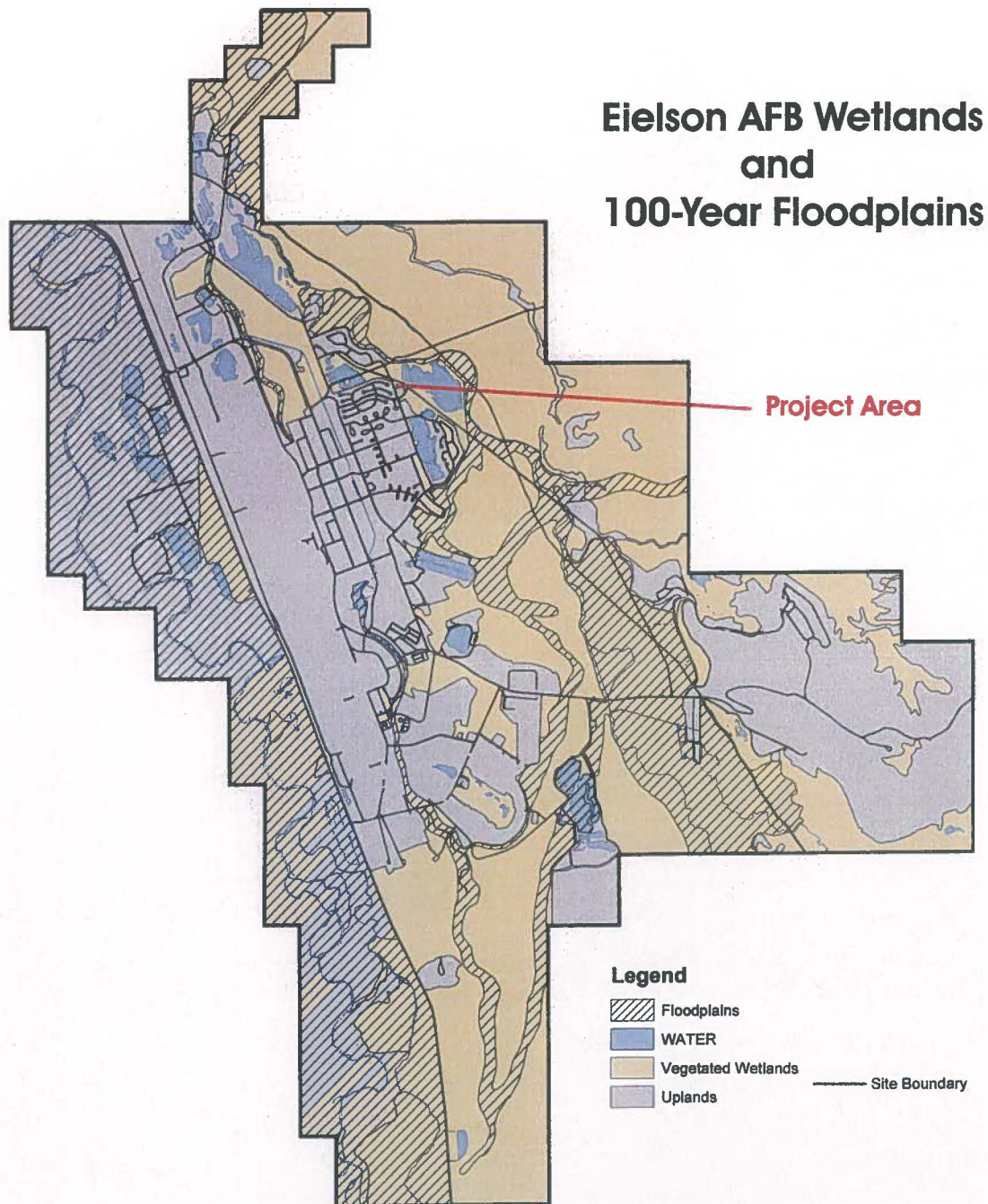


Figure 3-1 – Surface Water and Wetland Features

3.1.3.2 Approximately 51 percent, or 10,133 acres, of Eielson is classified as wetlands, with 9,391 acres being vegetated wetlands and the remainder being lakes, ponds, and streams (see Figure 3-1). Wetlands and low gradient alluvial streams comprise most of the surface water resources on Eielson, with wetlands dominating the low-lying areas within and surrounding the installation. Most wetland areas were created as a result of surface waters becoming trapped in the thawed layer over the permanently frozen subsurface (permafrost). Flood periods tend to occur during spring snowmelt and during the middle to late summer, when heavy rains or warm air quickly brings glacier fed mountain streams to flood capacity. Several lakes and extensive wetlands surround the airfield in the cantonment area. Among these are Bear, Polaris, Moose, Hidden, Pike, Rainbow, Scout, Grayling, and Tar Kettle lakes. Creeks that can be found in the vicinity of the airfield include French and Moose creeks.

3.1.3.3 Piledriver and Garrison sloughs are the two largest streams in the vicinity of the airfield. Piledriver Slough, which discharges into the Tanana River, is located along the western edge of Eielson and approximately 4,000 feet west of the airfield and parallel to the runways. Approximately 12 miles of Piledriver Slough occurs on Eielson. The slough receives no runoff from the urban developed area of the base and has good water quality.

3.1.4 Noise

Aircraft generate by far the most noise on Eielson. Noise levels associated with aircraft during flying hours can exceed 80 decibels (dB) in the vicinity of the flight line, however, the decibel

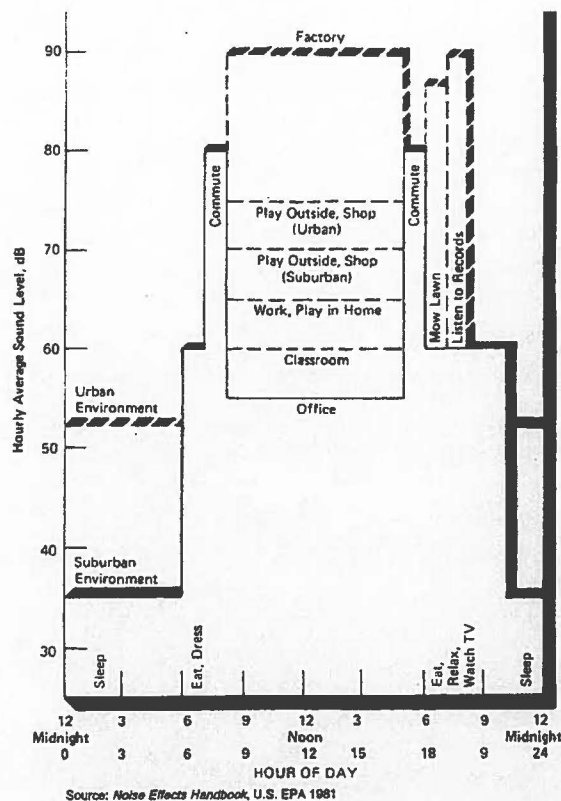


Figure 3-2 - Noise Levels

level drops off to a maximum of 70-dB in the closest residential area, Moose Creek, just north of the base. Noise greater than 65-dB is not recommended for housing areas. Construction noise is potentially another source of noise, but it is not considered to be a concern due to its temporary nature and relatively low dB level. Figure 3-2 is a chart that provides a scale of noise levels associated with typical daily activities.

3.1.5 Air Quality

Air quality is generally good at Eielson. Although portions of the North Star Borough, of which Eielson is also a part, are in non-attainment for carbon monoxide (Fairbanks and North Pole), Eielson is far enough south to not be included or affected. The Clean Air Act designates areas as *attainment*, *non-attainment*, *maintenance*, or *unclassified* with respect to national ambient air quality standards (NAAQS). Non-attainment and maintenance areas are locales that have recently violated one or more of the NAAQS and must satisfy the requirements of State or Federal Implementation Plans to bring them back into conformity with the applicable air quality standards. Eielson is located in an *unclassified* area, and activities that generate emissions do not need to satisfy the requirements of the Environmental Protection Agency ruling *Determining Conformity of General Federal Actions to the State or Federal Implementation Plans*.

3.1.6 Cultural Resources

In 1994, Eielson contracted for the preparation of a predictive model for the discovery of prehistoric and historic cultural resources on base lands. The predictive model was then used to conduct an evaluation of cultural resources on Eielson as required by Section 110 of the National Historic Preservation Act. The areas associated with the proposed action and alternative 1 has been determined to not contain cultural or archeological resources. In the event that during project excavation/construction any cultural resources were encountered, activities would cease until the resources were evaluated.

3.2 Biological Resources

3.2.1 Vegetation

3.2.1.1 The vegetation of the Tanana River Valley in the vicinity of Eielson is typical of boreal forest or taiga habitats. The boreal forests of Eielson are predominantly evergreen forests dominated by black spruce and white spruce (*Picea glauca*), but also include extensive stands of deciduous forests containing paper birch (*Betula papyrifera*), quaking aspen (*Populus tremuloides*), and balsam poplar (*P. balsamifera*). Extensive areas of shrub and herbaceous vegetation are found in wetlands, lowland areas, and the active floodplain, and are dominated by willows and other shrubs, sedges, and grasses. Bog areas are dominated by black spruce stands intermixed with peat moss (*Sphagnum* spp.) and cottongrass (*Eriophorum vaginatum*).

3.2.1.2 Vegetation at the project site falls into two more or less distinct regimes, upland and wetland. The upland areas are characterized by an early successional stage of a mixture of birch and quaking aspen for an overstory and an understory of alder, highbush cranberry, rosehip, and dwarf birch. The wetland portion of the site (see Figure 2-3 for a map) is characterized by small,

seasonally persistent ponded areas that have willow and alder shrubs as the overstory and forbs and grasses as an understory.



Figure 3-3 – Upland Vegetation at Proposed Snow Dump Site



Figure 3-4 – Typical Wetland Vegetation at the Proposed Site

3.2.2 Aquatic/Fishery Resources

3.2.2.1 Lakes and streams on Eielson contain both native fish and fish stocked by the Alaska Department of Fish and Game. Native fish found in the Tanana River drainage include chinook salmon (*Oncorhynchus tshawytscha*), chum salmon (*O. keta*), silver salmon (*Oncorhynchus kisutch*), burbot (*Lota lota*), arctic grayling (*Thymallus arcticus*), northern pike (*Esox lucius*), chub (*Semotilus* spp.), several species of whitefish (*Coregonus* spp.), sheefish (*Stenodus leucichthys nelma*), rainbow trout (*Oncorhynchus mykiss*), and arctic char (*Salvelinus alpinus*).

3.2.2.2 The Alaska Department of Fish and Game stocks five lakes and one stream on Eielson: Grayling Lake, Hidden Lake, Polaris Lake, 28 Mile Pit, Moose Lake, and Piledriver Slough. Fish stocked by the Alaska Department of Fish and Game include rainbow trout, arctic grayling, arctic char, silver salmon, chinook salmon, chum salmon, and northern pike. There are no known federally listed threatened or endangered fish species, fish species proposed for listing, or critical fish habitats on Eielson.

3.2.2.3 French Creek, the fish stream nearest the proposed snow dump, is classified by the Alaska Department of Fish and Game as an anadromous stream; spawning and rearing of chum salmon are known to occur in this reach of the stream. In addition to chum salmon, northern pike, grayling, whitefish, burbot, and rainbow trout are known to inhabit French Creek. The stream is classified by the Alaska Department of Environmental Conservation for all uses under its Water Quality Standards (18 AAC 70.050).



Figure 3-5 – Alternate Site

3.2.3 Wildlife Resources

3.2.3.1 The surrounding Tanana Valley provides breeding habitat for a wide variety of migratory bird species. Bird species found on Eielson include spruce grouse (*Dendragapus canadensis*), ruffed grouse (*Bonasa umbellus*), northern goshawk (*Accipiter gentilis*), sharp-shinned hawk (*A. striatus*), great horned owl (*Bubo virginianus*), red-tailed hawk (*Buteo jamaicensis*), and American kestrel (*Falco sparverius*). During winter, willow ptarmigan (*Lagopus lagopus*) and rock ptarmigan (*L. mutus*) are common on Eielson. Over 20 species of waterfowl, including geese, ducks, loons, grebes, and scoters, use aquatic habitats located on base lands.

3.2.3.2 There are 32 species of mammals found on Eielson. Common species include moose (*Alces alces*), black bear (*Ursus americanus*), grizzly bear (*U. arctos*), snowshoe hare (*Lepus americanus*), marten (*Martes americana*), red squirrel (*Tamiasciurus hudsonicus*), beaver (*Castor canadensis*), muskrat (*Ondatra zibethicus*), mink (*Mustela vison*), meadow vole (*Microtus pennsylvanicus*), red-back vole (*Clethrionomys rutilus*), and meadow jumping mice (*Zapus hudsonius*).

3.3 Habitat Value

3.3.1 *Proposed Project Site:* The proposed project would be sited in an area that is mostly upland (96 percent) with a small wetland area (4 percent). The upland area is covered in early stage succession birch forest that provides moderate quality habitat for a variety of birds and small mammals. The wetland area is a scrub/shrub wetland that has ponded areas of water during spring snow melt and early summer. The habitat quality is also moderate quality and provides some nesting for birds. There are large expanses of good quality wetlands immediately to the east of this site.

3.3.2 *Alternative 1 Site:* Most of this site is black spruce, scrub/shrub wetlands, and has relatively low habitat value. Some small passerine bird species utilize black spruce for nesting and small mammals such as voles, shrews, and snowshoe hares use the area. The upland portion of the site is mainly white spruce with occasional birch and provides some bird nesting habitat.

3.4 Threatened and Endangered Species

No threatened or endangered species, as designated by the US Fish and Wildlife Service, typically occur in any of the project areas included in the listed alternatives. This was the conclusion of an Eielson contract study entitled *Biological Survey, Final Report 1994*, that addressed the potential for the presence of endangered species on Eielson lands.

4.0 Environmental Consequences

This section discusses the probable impacts for each alternative described in Section 2.0. This section is organized according to resources and a discussion of each alternative action is provided relative to resources identified as relevant in Section 3.0.

4.1 Physical Environment

4.1.1 Soils

4.1.1.1 Proposed Action: The proposed action would require the 9.6-acre site be hydroaxed and leveled by pushing tree stumps and debris into low areas. Soil horizons would be disturbed during this process. Some pit run gravel would be brought in to construct an access road into the site. Approximately 0.4 acres of vegetated wetlands would be filled as a result of site construction.

4.1.1.2 Alternative 1: A similar construction scenario would occur at the alternative 1 site. However, because this site is smaller than the proposed project site, there would be limited areas to serve as vegetative buffers. To control potentially contaminated snowmelt runoff, a 3-foot-high gravel berm would be built around the area. Berm construction would result in the placing of 5,300 cubic yards of gravel in 1.5 acres of vegetated wetlands.

4.1.1.3 No Action Alternative: No impacts to soils would result from this alternative.

4.1.2 Groundwater

4.1.2.1 Proposed Action: Although groundwater in the area is quite shallow, construction related excavation would be too shallow to reach groundwater. There is, however, a slight chance that contaminants contained in the snow when deposited at the site could ultimately seep into the ground and infiltrate groundwater in the spring. The most likely contaminant would be polycyclic aromatic hydrocarbons (PAHs) that come from vehicle exhaust. However, the concentration of PAHs that would reach groundwater would not likely be at a level that would require treatment if it were to be in an area that the groundwater was a drinking water source. The site of the proposed snow dump is more than 2 miles from any base drinking water wells.

4.1.2.2 Alternative 1: Similar impacts to groundwater could result with this alternative that are discussed in 4.1.2.1.

4.1.2.3 No Action Alternative: This alternative would have no impacts on groundwater.

4.1.3 Surface Water

4.1.3.1 Proposed Action: Although there are ponds (Polaris Lake and Moose Lake) relatively close by to the project site, little, if any, impact to surface water resources is expected from construction and operation of the snow dump. The project design calls for a 50-foot vegetation buffer to be maintained on three sides and a 100-foot buffer on the south side closest to a water

body. These vegetation buffers would filter out any contaminants that would be brought to the site bound in the snow during snow removal operations.

4.1.3.2 *Alternative 1:* As described in Section 4.1.1.2, a gravel berm would surround the snow dump site to contain snowmelt water, thereby isolating the snow dump from nearby ponds and streams.

4.1.3.3 *No Action Alternative:* Under the no action alternative snow, would remain on streets longer and there would be an increased risk that contaminants that were bound in the snow would have a greater chance to melt and drain into surface water bodies.

4.1.4 Noise

4.1.4.1 *Proposed Action:* Noise impacts associated with implementation of this action would be short-term and relatively low decibel compared to ambient noise levels that occur with flightline aircraft operations. Noise would be associated with operation of construction machinery, and would last only for 2 weeks during the construction phase of the snow dump. During snow removal activities there would be greater than normal truck and other equipment noise. This would be on an occasional basis as snow removal operations were required.

4.1.4.2 *Alternative 1:* Noise impacts associated with this alternative would be similar to that described for the proposed action.

4.1.4.3 *No Action Alternative:* No noise impacts would result from this alternative.

4.1.5 Air Quality

4.1.5.1 *Proposed Action:* Some minor, short-term impacts from emissions associated with the operation of construction machinery would result from the proposed action.

4.1.5.2 *Alternative 1:* Impacts to air quality could result from the operation of construction machinery. This would be more of an impact than with the proposed action due to its increased amount of site preparation. These impacts would be short-term in nature.

4.1.5.3 *No Action Alternative:* No impacts to air quality would result from this alternative.

4.1.6 Cultural Resources

No impacts to cultural resources would result from any identified alternatives.

4.2 Biological Resources

4.2.1 Vegetation

4.2.1.1 Proposed Action: Impacts to vegetation would occur as a result of construction of the proposed action. These impacts would result in the loss of approximately 9.1 acres of forest and 0.4 acres of vegetated wetlands.

4.2.1.2 Alternative 1: This alternative would result in the loss of vegetation of approximately 4.6 acres of vegetated wetlands and 1.3 acres of forested uplands.

4.2.1.3 No Action Alternative: No losses to vegetation would result from this alternative.

4.2.2 Aquatic/Fishery Resources

4.2.2.1 Proposed Action: No impacts to fishery resources would likely result from the proposed project.

4.2.2.2 Alternative 1: Implementation of this alternative would not result in impacts to fishery resources.

4.2.2.3 No Action Alternative: No impacts to fishery resources would likely result from this alternative.

4.2.3 Wildlife Resources

4.2.3.1 Proposed Action: Minor impacts to nesting birds and small mammals could occur from the construction of the snow dump at this site, which would result in the loss of 9.1 acres of birch forest and 0.4 acres of vegetated wetlands. Construction of the site would occur in the winter months when no birds are present. Some small mammals such as voles, shrews, and red squirrels would be impacted as the result of hydroaxing and leveling of the site. Most would likely relocate to the adjacent areas that will have similar habitat.

4.2.3.2 Alternative 1: Similar impacts as described for the proposed action would likely occur with this alternative. There are approximately 1.3 acres of forested uplands and 4.6 acres of black spruce wetlands on the alternative 1 site that would be lost as potential nesting habitat for birds. In addition, some small mammal habitat would be lost if the snow dump were constructed at this location.

4.2.3.3 No Action Alternative: No impacts to wildlife would result from this alternative.

4.2.4 Threatened and Endangered Species

There are no threatened or endangered species on Eielson lands and no impacts to these species would result from any of the alternatives considered in this EA.

4.3 Cumulative Impacts

The NEPA process requires that the issue of cumulative impacts be addressed in an environmental assessment.

4.3.1 The Council on Environmental Quality has stated in their NEPA regulations (1508.7) that: *“Cumulative impact is the impact on the environment which results from the incremental impact of the action when added to past, present, and reasonably foreseeable future actions. . .”* and *“... can result from individually minor, but collectively significant actions taking place over a period of time.”* Eielson has, in recent years, been very cognizant of the issue of cumulative impacts to wetlands. This is primarily due to the fact that the base was, to a large extent, built by filling wetlands, and that expansion of Eielson facilities beyond the original footprint of the base often requires the use of additional wetlands. Of the 19,789 acres that constitute Eielson lands, 51 percent are designated wetlands.

4.3.2 To address the potential for cumulative impacts to wetlands, Eielson has developed an active program of wetland habitat creation and enhancement. Classification of Eielson wetlands according to type and quality (as defined in Cowardin, et al, US Fish and Wildlife Service, 1979) has indicated that 93 percent of Eielson wetlands are of low quality. Most of these wetlands are classified as black spruce or willow/alder, scrub/shrub wetlands and constitute large, homogenous blocks of land that provide minimal wetland values to wildlife.

4.3.3 As Eielson expands its facilities and encroachment on wetlands occurs, several steps are routinely taken to minimize the impacts on Eielson's wetlands. First, all moderate to high-value wetlands are protected from development through wetland mapping and planning with base facility planners. Second, when a project is sited that will encroach on wetlands, significant effort is put into reducing the amount of encroachment through facility siting adjustments. And finally, an active program has been developed to mitigate wetland losses through wetland habitat creation and enhancement. This is mainly carried out in conjunction with Eielson's gravel mining program. When Eielson needs gravel for construction material, it is obtained by excavating alluvial gravel deposits that occur under base lands. The gravel is typically found beneath the low-value black spruce wetlands which are common on Eielson. As part of the extraction process, wetlands of higher value are created (lake habitat with shallow littoral zones and emergent vegetation) from lower value black spruce wetlands and uplands. The type and quality of wetlands are particularly valuable for feeding, nesting, and brood-rearing by waterfowl, the bird species potentially most affected by the proposed project. The wetland creation/enhancement program on Eielson has been going on for several years and has the full and enthusiastic support of local, state, and federal resource agencies. To date, Eielson has created/enhanced more than 250 acres of high-value wetlands as part of this program.

4.3.4 The proposed project and alternative 1 would result in the loss of upland forest and vegetated wetlands, 9.5 acres and 5.9 acres, respectively. However, due to the ongoing wetlands creation program, it is believed that no significant cumulative impacts would result from the construction of a new snow dump on the east side of the base.

4.4 Unavoidable Adverse Impacts

4.4.1 *Proposed Action*: The proposed action would result in the permanent loss of 9.5 acres of upland forest and vegetated wetlands.

4.4.2 *Alternative 1*: This alternative would result in the loss of 5.9 acres of black spruce wetlands and forested uplands.

4.4.3 *No Action Alternative*: This alternative would not result in any unavoidable adverse impacts.

4.5 Relationship of Short-Term Uses and Long-Term Productivity

The proposed action would result in some minor long-term losses. The loss of 9.5 acres of uplands and wetlands would be permanent, and the productivity, although relatively limited, would be lost for the foreseeable future. The short-term uses would be the use of the area as a snow dump.

4.6 Irreversible and Irretrievable Commitments of Resources

No irreversible or irretrievable commitments of resources would occur with either action alternative.

4.7 Environmental Justice

4.7.1 President Clinton issued Executive Order (EO) 12898, *Environmental Justice in Minority Populations and Low-Income Populations*, on February 11, 1994. Objectives of the EO, as it pertains to the NEPA process, requires federal agencies to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations. To accomplish these requirements the Air Force must conduct an environmental justice analysis of all potential impacts that may result from the proposed actions.

4.7.2 The environmental justice analysis must first identify all adverse impacts associated with the project. The next phase is to delineate the potential area of impact for the resources affected. If, within this area of impact, population demographics are such that a disproportionate effect on minority or low-income populations may occur, it should be so identified. These impacts should be documented and mitigation should be developed that can be implemented by the Air Force.

4.7.3 The site for the proposed action is in base housing. Base housing does not exhibit any particular demographics except related to military rank. In the case of this project, the housing that is closest to the project area includes both enlisted as well as officer's housing. This project would have equally beneficial effects on a full cross-section of the demographics of Eielson's base population. Based on the environmental impacts identified in this EA and on a corresponding environmental justice analysis, it is felt that no disproportionate impact to minority or low-income populations would occur from implementation of this project.

4.8 Mitigation

No project specific mitigation is proposed or required as a result of federal and state permits obtained for this project. As described in Section 4.3.3, Eielson has a wetlands creation and enhancement program that will mitigate for the wetland losses that are associated with this project.

5.0 List of Persons and Agencies Consulted

Mr. Brent Koenen, USAF, 354 CES/CEVN, Eielson AFB AK, phone 377-5182.

Mr. Forrest McDaniel, US Army Corps of Engineers, Regulatory Functions Branch, Fairbanks AK, phone 474-2166.

Mr. Larry Bright, US Fish and Wildlife Service, Fairbanks AK, phone 456-0322.

6.0 Glossary

Alluvial - Sediment deposited by flowing water.

Cantonment - The main operational area of a military base.

Culvert - A drain crossing under a road or an embankment.

Environmental Impact Analysis Process (EIAP) - is a set of guidelines (Air Force Instruction 32-7061) that the Air Force uses to comply with the NEPA process.

Decibel - A unit of measurement for describing sound intensity.

Executive Order 11990 - Mandate to federal agencies to follow the NEPA process to ensure the protection of wetlands.

Habitat - The area or environment in which an organism or ecological community normally occurs.

Installation Restoration Program (IRP) - An Air Force program mandated to identify, investigate, and clean up contamination associated with past Air Force activities.

Mean Sea Level (MSL) - The average surface level for all stages of the tide over a 19-year period, usually determined from hourly height readings from a fixed reference point.

National Environmental Policy Act (NEPA) - Legislation enacted in 1969 mandating that all federal agencies assess the environmental impacts of actions which may have an impact on man's environment.

National Historic Preservation Act - Federal mandate that requires the preservation of prehistoric and historic sites.

Non-Attainment Area - An area exceeding National Ambient Air Quality Standards for one or more criteria pollutants.

Permafrost - Permanently frozen subsoil occurring in perennially frigid areas.

Riparian - Living or located on a riverbank or a natural course of water.

SAFO 780-1 - Secretary of the Air Force Order and reference number.

Seasonally Persistent - Persistence is based on historical records and field evidence that indicates an area is seasonally inundated with water during non-frozen (spring/summer) portions of the year.

Turbidity - Cloudy or hazy appearance in a naturally clear liquid caused by a suspension of colloidal liquid droplets or fine solids.

Understory - A foliage layer occurring beneath and shaded by the main canopy of a forest.

Upland - An area of land of higher elevation, often used as the opposite of a wetland.

Wetlands - Areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

404 Wetland - Wetland areas that have been determined "waters of the United States" and thus subject to Section 404 wetland permitting guidelines administered by the US Army Corps of Engineers and the Environmental Protection Agency.

100-Year Floodplain - Based on historical evidence, there is a high probability that the area within the 100-year floodplain will be flooded once every 100 years.

7.0 Project Wetlands Permit



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, ALASKA
3437 AIRPORT WAY
SUITE 206 WASHINGTON PLAZA
FAIRBANKS, ALASKA 99709-4777

September 11, 2006

Regulatory Branch
POA-2006-1458-D

Mr. Jim Nolke
354 CES/CEVP
2310 Central Avenue, Suite 100
Eielson AFB, Alaska 99702-2299

Dear Mr. Nolke:

This is in response to your July 27, 2006, application on behalf of Gary Schneider, Base Civil Engineer for a Department of the Army (DA) permit, to mechanically clear and fill approximately 0.4 acres of wetlands with vegetative debris from the clearing operation to construct a snow dump. It has been assigned number POA-2006-1458-D, which should be referred to in all future correspondence with this office. The project is located in section 1, T. 3 S., R. 3 E., Fairbanks Meridian, latitude 64.6856° N., longitude 147.0708° W., on Eielson AFB, Alaska.

Department of the Army permit authorization is necessary because your project would involve placement of dredged and/or fill material into waters of the U.S. under our regulatory jurisdiction.

Based upon the information and plans you provided, we hereby verify the work described above, which would be performed in accordance with the enclosed plan (sheet [1]), dated August 23, 2006, is authorized by nationwide permit (NWP) #18, Minor Discharges. NWP #18 and its associated Regional and General Conditions can be accessed at our website www.poa.usace.army.mil/reg. Regional Conditions D, E, and N apply to your project.

The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

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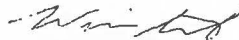
Further, please note General Condition 14 requires that you submit a signed certification to us once any work and required mitigation are completed. Enclosure 1 is the form for you to complete and return to us.

This verification is valid until the NWP is modified, reissued, or revoked. All of the existing NWPs are scheduled to be modified, reissued, or revoked prior to March 18, 2007. It is incumbent upon you to remain informed of changes to the NWPs. We will issue a public notice when the NWPs are reissued. Furthermore, if you commence or are under contract to commence this activity before the date that the relevant nationwide permit is modified or revoked, you will have twelve (12) months from the date of the modification or revocation of the NWP to complete the activity under the present terms and conditions of this nationwide permit.

Nothing in this letter shall be construed as excusing you from compliance with other Federal, State, or local statutes, ordinances, or regulations which may affect this work.

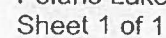
Please contact me at the letterhead address, at (907) 474-2166 or by FAX at (907) 474-2164, if you have any questions or to request a paper copy of the terms and conditions of NWP #18. For additional information about our regulatory program, visit our web site at www.poa.usace.army.mil/reg.

Sincerely,



Will Strickland
Project Manager

Enclosures



8.0 Public Notice

USAF ANNOUNCES an ENVIRONMENTAL ASSESSMENT

In accordance with the National Environmental Policy Act (NEPA), and Air Force Regulations, Eielson Air Force Base has completed an environmental assessment (EA) and Finding Of No Significant Impact (FONSI) to evaluate the consequences of the following stated proposed action:

Construct a snow disposal facility in the housing area of the base. The proposed project would result in impacts to approximately 9.1 acres of upland forest and 0.4 acres of vegetated wetlands.

PUBLIC COMMENT WELCOME

To review the draft EA and FONSI, copies are available at the Noel Wien Library in Fairbanks. The public is invited to review these documents and make comments during the 30-day comment period from now until December 2, 2006. To get a copy of the EA, to comment, or for more information contact Jim Nolke, Eielson AFB Environmental Flight, at (907) 377-3365, or by mail at 354 CES/CEVP, 2301 Central Ave, Ste 100, Eielson AFB, AK 99702-2299.

Public Announcement appeared in Fairbanks Daily News Miner on November 2, 2006



DEPARTMENT OF THE AIR FORCE
PACIFIC AIR FORCES

MEMORANDUM FOR HQ PACAF/CEV
ATTN: JULIE HONG
25 E Street, Suite D-306
Hickam AFB HI 96853-5412

FROM: 354 FW/CV
354 Broadway Street, Unit 19A
Eielson AFB AK 99702-1899

SUBJECT: Finding Of No Significant Impact (FONSI)/Finding Of No Practicable Alternative (FONPA)/Environmental Assessment (EA) for the Construction of Snow Disposal Area

1. Attached you will find the FONSI/FONPA/EA for Eielson AFB's proposal to construct a new snow disposal site in the housing area of the base. The new snow dump will significantly reduce the haul time and distance it currently takes to remove snow from housing. The project will impact 0.4 acres of black spruce wetlands.
2. Please review and coordinate with the required groups. If there are any questions, please contact Mr. Jim Nolke, 354 CES/CEVP, at 317-377-3365.

A handwritten signature in black ink, appearing to read "J. Horton", is positioned above the printed name and title.

JAMES C. HORTON
Colonel, USAF
Chairman, Environmental Protection Committee

Attachment:
FONSI/FONPA/EA